IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	09/786,646	Confirmation No. 3845
Applicant	:	Walter Keller	
Filed	:	April 26, 2001	
Title	:	METHOD FOR OPTIMIZED TRANSMISSION OF MULTIMEDIA SERVICES VIA MOBILE COMMUNICATION NETWORKS (MOBILE TELEPHONE NETWORKS)	
TC/A.U.	:	2616	
Examiner	:	N. Juntima	
Atty. Docket No.	:	RBL0072	
Customer No.	:	0832	

AMENDMENT AFTER FINAL ACTION

MAIL STOP AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Final Office Action of August 22, 2007, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (canceled)

Claim 2 (previously presented): A method according to Claim 21, and having a data-specific separation, which overcomes an air interface for the purpose of optimal use of frequency resources and to obtain optimal transmission quality of a specific application or individual applications within a multimedia application.

Claim 3 (previously presented): A method according to claim 21, and reassembling the data streams that were separated according to data structure after optimized parallel transmission into the original data streams such that optimization is transparent to the user.

Claim 4 (canceled)

Claim 5 (previously presented): A method according to claim 21, characterized by having the functional unit (CAC) on the user's side as well as the functional unit (ICAMU) on the side of the core network designed in their protocol, conversion, and algorithm-specific components preferably as software modules for microprocessors or signal processors in such a way that an update of partial functions as needed or alternatively the complete function via the mobile radio communications network is possible, which thus allows for a permanent method for updating to new methods and protocols.

Claim 6 (previously presented): A method according to claim 21, and providing an optional connection between the network functional unit (ICAMU) and a Customer Care and Billing System (CCBS) of the network operator for the billing of offered services and the creation and verification of use by a single user.

Claim 7 (previously presented): A method according to claim 21, characterized by the functional unit (CAC) on the user's side as well as the functional unit (ICAMU) on the side of the core network communicate with each other by means of inband signaling, such that the needs of an optimized data transfer via various transmission channels between the functional units are met.

Claim 8 (currently amended): A method for the optimized transmission of multimedia services in a mobile communications network, particularly a mobile radio communications network, comprising the steps of:

providing a mobile terminal having a functional unit in [[the]] a form of a channel access client (CAC) implemented as a software driver on a user's side and a functional unit in [[the]] a form of an intelligent channel access and management unit (ICAMU) on a core network side for handling a multimedia data stream,

recognizing, in the functional units and depending on the direction of the multimedia data stream, particular applications within the multimedia data stream by means of suitable parameters in form of indicators, descriptors, protocol variations or data analysis processes,

the functional units collaborating with each other to allocate and transmit via various alternative air interface transmission channels of the mobile communications network,

the mobile terminal including said user's side functional unit (CAC) separating by means of software the recognized applications completely or in part by their specific data structure and generating several data streams,

transmitting the several data streams individually and in parallel by their specific data structure via available transmission channels of the mobile communications network which are optimized for respective needs of the individual data streams,

re-assembling the data streams on a receiver side,

optionally not aggregating completely some application-specific components of the data streams,

further transmitting the non-aggregated components at least in part as a separate data stream within the mobile communications network or alternatively via various network accesses to other telecommunication or data networks to other receivers or the same receiver, and

causing the functional unit (ICAMU) on the side of the core network to provide an additional service to the user by optional conversion of the data streams from the user into other standardized multimedia or protocol forms and to transmit them through alternative pathways as needed.

Claim 9 (currently amended): A method for the optimized transmission of multimedia services in a mobile communications network, particularly a mobile radio communications network, comprising the steps of:

providing a mobile terminal having a functional unit in [[the]] a form of a channel access client (CAC) implemented as a software ~~drive~~ driver on a user's side and a functional unit in [[the]] a form of an intelligent channel access and management unit (ICAMU) on a core network side for handling a multimedia data stream,

recognizing, in the functional units and depending on the direction of the multimedia data stream, particular applications within the multimedia data stream by means of suitable parameters in form of indicators, descriptors, protocol variations or data analysis processes,

the functional units collaborating with each other to allocate and transmit via various alternative air interface transmission channels of the mobile communications network,

the mobile terminal including said user's side functional unit CAC separating by means of software the recognized applications completely or in part by their specific data structure and generating several data streams,

transmitting the several data streams individually and in parallel by their specific data structure via available transmission channels of the mobile communications network which are optimized for respective needs of the individual data streams,

re-assembling the data streams on a receiver side,

optionally not aggregating completely some application-specific components of the data streams,

further transmitting the non-aggregated components at least in part as a separate data stream within the mobile communications network or alternatively via various network accesses to other telecommunication or data networks to other receivers or the same receiver, and

causing at least the functional unit (ICAMU) on the side of the core network to handle appropriate routing and signaling mechanisms to transmit application or data structure specific parts of multimedia data streams via various transmission networks.

Claim 10 (previously presented): A method according to claim 21, wherein the method may be used in fixed network systems in like manner as needed.

Claim 11 (previously presented): A method according to claim 21 and enabling a network provider to allocate channels for dynamic load distribution and load optimization of alternative transmission channels and/or various networks.

Claim 12 (previously presented): A method according to claim 21, and enabling the user to use the method for a customer-specific selection and choice method in areas including speed of transmission, services used, priorities, quality of service and costs.

Claim 13 (previously presented): A method according to claim 2, and re-assembling the data streams that were separated according to data structure after optimized parallel transmission into the original data stream such that optimization is transparent to the user.

Claim 14 (canceled)

Claim 15 (previously presented): A method according to claim 2, characterized by having the functional unit (CAC) on the user's side as well as the function unit (ICAMU) on the side of the core network designed in their protocol, conversion, and algorithm-specific components as software modules for microprocessors or signal processors in such a way that an update of partial functions as needed or alternatively the complete function via the mobile radio communications network is possible, which thus allows for a permanent method for updating to new methods and protocols.

Claim 16 (previously presented): A method according to claim 3, characterized by having the functional unit (CAC) on the user's side as well as the function unit (ICAMU) on the side of the core network designed in their protocol, conversion, and algorithm-specific

components as software modules for microprocessors or signal processors in such a way that an update of partial functions as needed or alternatively the complete function via the mobile radio communications network is possible, which thus allows for a permanent method for updating to new methods and protocols.

Claims 17-20 (canceled)

Claim 21 (currently amended): A method for the optimized transmission of multimedia services in a mobile communications network, particularly a mobile radio communications network, comprising the steps of:

providing a mobile terminal having a functional unit in [[the]] a form of a channel access client (CAC) implemented as a software driver on a user's side and a functional unit in [[the]] a form of an intelligent channel access and management unit (ICAMU) on a core network side for handling a multimedia data stream,

recognizing, in the functional units and depending on the direction of the multimedia data stream, particular applications within the multimedia data stream by means of suitable parameters in form of indicators, descriptors, protocol variations or data analysis processes,

the functional units collaborating with each other to allocate and transmit via various alternative air interface transmission channels of the mobile communications network,

the mobile terminal including said user's side functional unit CAC separating by means of software the recognized applications completely or in part by their specific data structure and generating several data streams,

transmitting the several data streams individually and in parallel by their specific data structure via available transmission channels of the mobile communications network which are optimized for respective needs of the individual data streams,

re-assembling the data streams on a receiver side,

optionally not aggregating completely in the ICAMU some application-specific components of the data streams, and

further transmitting the non-aggregated components at least in part as a separate data stream within the mobile communications network or alternatively via various network accesses to other telecommunication or data networks to other receivers or the same receiver.

REMARKS/ARGUMENTS

Applicants submit, contemporaneously herewith, a Request for Continued Examination pursuant to 37 C.F.R. § 1.114.

Claims 8, 9 and 21 have been amended to overcome the objections noted by the Examiner.

The rejection of independent Claims 8, 9 and 21 as obvious over Basu combined with Dodge is respectfully traversed. It is requested that the Examiner reconsider and withdraw the rejections for the reasons set forth below.

In the Office Action, the Examiner correctly states that Basu does not disclose:

(i) that the mobile terminal's functional unit is in form of a CAC implemented as a software driver,

(ii) the recognized applications are separated by means of software, and

(iii) the steps of optionally not aggregating completely some application-specific components of the data streams, and further transmitting the non-aggregated components at least in part as a separate data stream via various network accesses to other data networks or a receiver.

Regarding (i) and (ii), the Examiner refers to Dodge as teaching a software driver 124 that is used to control the communication of the data/application messages and to recognize the message type between the mobile station 104 and base station 102. However, all that Dodge discloses is software for controlling a simple modem, which is not suitable for controlling the separation of applications and data streams. The independent claims specifically call for a channel access client (CAC) that is implemented as a software driver that separates, by means of software, the recognized applications completely or in part by their specific data structure to thereby generate a plurality of data streams. Dodge does not accomplish this. As set forth in columns 2 and 3 of Dodge, the modem card software has the task of passing data to and from the radio and to and from the main processor of the remote system 104. The software is not disclosed as separating the recognized applications and thereby generating several data streams as does a channel access client (CAC).

Even if the software driver of Dodge were disclosed as doing this, the claimed invention would not be obvious from a combination of Dodge and Basu. With reference to Figs. 4A and 4B, Basu utilizes in each wireless mobile unit a multimedia interface unit 402 that comprises a plurality of physically independent channels. The data is segmented in

block 408 and fed in parallel to a plurality of independent modems 412 in the form of physical units. The modems are connected to a plurality of independent radio units 414, each of which transmits a definite data segment to a receiving side of the network.

Contrary to this arrangement, the present invention utilizes the CAC on the mobile unit side implemented as a software driver which enables a conventional mobile unit to be utilized without a change in the hardware. The data is separated into its transmission-oriented components and transmitted separately over a plurality of transmission channels. The transmission channels are logical channels rather than physically separate channels. The advantage of this arrangement over Basu is that existing and low cost hardware can be utilized, in particular conventional mobile telephones. There is no need to implement a plurality of independent physical transmission channels. Utilizing the software implemented CAC enables the system to be easily reconfigured by programming. If the modem card software of Dodge were incorporated into the multi-media interface unit 402 (Fig. 4A) of Basu, such would be used to control the individual modems but not to separate the recognized applications by their specific data structure to generate several data streams. The data streams have already been generated by means of the separate modems.

Regarding (iii), the Examiner makes the leap from what is disclosed by Basu, namely that the data is always reassembled before being passed to other circuitry contained in the base station, to the arrangement claimed in the present application, namely, optionally not aggregating completely some application-specific components and then further transmitting the non-aggregated components at least in part as a separate data stream within the network. Basu clearly teaches assembling the data, as set forth in column 8, lines 47-62, Fig. 3:

> "A receive bandwidth assembly block 316 receives the data from the receive modem block 340 and assembles the data as required. When packets of data, for example TCP/IP packets, are received according to the system of the present invention, such packets may have been segmented prior to their transmission. Upon receipt, the segmented packets pass through a plurality of the receive modems where the segmented packets are demodulated and then passed to the receive bandwidth assembly block 316. The receive bandwidth assembly block 316 then assembles the segmented packets into correctly assembled data block(s). After the data is correctly assembled, the data is passed to decompression block 318 where it is decompressed and then to the electronics interface unit 314. From the electronics interface unit 314, the [assembled] data is passed to other circuitry contained in the base station. (Emphasis and bracketing added).

Since Basu clearly discloses that the data is always reassembled before being passed to other circuitry contained in the base station and since there is no support in the prior art of record for the obviousness of not aggregating completely some application-specific components and further transmitting the non-aggregated components as a separate data stream, the conclusion that such would be obvious is respectfully traversed.

Accordingly, even if Dodge and Basu are combined, the limitations of the independent claims are not met, nor would these claims be obvious within the meaning of 35 U.S.C. § 103 for the reasons set forth above. It is therefore submitted that all of the claims in the present application define subject matter that is patentable over the prior art of record. It is requested that the Examiner reconsider and withdraw the rejection.

As always, if the Examiner has any suggestions for further prosecution of the application, it is requested that she telephone the undersigned at 260-460-1692.

In the event Applicants have overlooked the need for an extension of time, payment of fee, or additional payment of fee, Applicants hereby petition therefor and authorize that any charges be made to Deposit Account No. 02-0385, Baker & Daniels.

Respectfully submitted,

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I hereby certify that this correspondence is being filed electronically with the U.S. Patent and Trademark Office on: October 30, 2007

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Signature

October 30, 2007
Date